REMARKS

Claim Status

This application contains claims 1-16. Claim 2 has been amended to correct an inadvertent typographical error. Specifically, the spelling of a word has been corrected to recite "enhanced" rather than "enchanced." Claim 16 has been added to more particularly point out and distinctly claim the subject matter prosecuted in this application. Claim 16 reads on the elected invention because it is drawn to a method for antibody production in immunocytes in which DNA homologous recombination is occurring at the antibody locus by relaxing the chromatic structure of chromosomes in the immunocytes resulting in diverse immunocytes. Support for claim 16 may be found, for example, in the specification at least on pages 6, lines 27-36 to page 10, lines 1-32. No new matter was added.

The Requirement for Restriction

In the restriction requirement set forth in the Office Action mailed September 21, 2007, the Examiner has required restriction as between:

I. Claims 1, 3, 4, 5, and 6, are drawn to a method for enhancing somatic recombination at a genetic locus comprising promoting homologous DNA recombination by relaxing the chromatin structure of chromosomes in said somatic cells and immunocytes for which said somatic homologous recombination has been promoted.

II. Claim 7 is drawn to an immunocyte for which said somatic homologous recombination has been promoted.

III. Claims 2, 12, 13, 14 and 15 are drawn to a method for antibody production comprising promoting homologous DNA recombination at an antibody locus when producing antibodies from immunocytes in which DNA homologous recombination is occurring by relaxing the chromatin structure of chromosomes in said immunocytes and thereby obtaining diverse antibodies.

IV. Claims 8 and 9 are drawn to the antibodies produced by promoting homologous recombination.

V. Claims 10 and 11, drawn to a medical agent for the promotion of somatic homologous recombination at a genetic locus, comprising a histone deacetylase inhibitor.

Solely to be responsive to the requirement for restriction, Applicants hereby provisionally elect, with traverse, to prosecute Invention Group III (claims 2, 12, 13, 14, 15, and new claim 16) for continued examination.

The foregoing election is made solely in order to be fully responsive to the Requirement for Restriction. However, the requirement for restriction is not believed to be well taken and is respectfully traversed. Applicants request that the Requirement be withdrawn, and the claims of all five groups be examined in the same application. It is noted that "if the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims directed to distinct or individual inventions." See, M.P.E.P. 803 and in particular M.P.E.P. 803.04 (emphasis added).

Here, the Examiner has required restriction between Invention Groups I-V. The Examiner acknowledges that Invention Groups I, II, III, IV and V appear to all relate to a variety of diverse antibodies by promoting homologous recombination of DNA at a genetic locus in an immunocyte. The Examiner also states, however, that the technical feature linking Invention Groups I, II, III, IV, and V does not constitute a special technical feature as defined by PCT Rule 13.2. More specifically, the Examiner asserts that the technical feature does not define a contribution over Sale et al., Nature, Vol. 412, No. 6850, p 921-926, 2001 (hereafter "Sale"), which allegedly describes a marked induction of somatic immunoglobulin V genes by hypermutation that is achieved by ablating RAD51. The Examiner also states that the restriction for examination purposes is proper because the five Invention Groups are distinct making it unduly burdensome for

the Examiner to search and examine all of the subject matter called for by the present claims. Applicants respectfully disagree with the Examiner.

The present claims call for methods of enhancing homologous recombination at a genetic locus in a somatic cell or immunocyte to acquire diverse antibody molecules. The present claims also call for antibodies produced by the claimed methods and medicinal agents used by the claimed methods. The present claims do not require use of hypermutation to accomplish the claim methods.

In stating that the technical feature of the present claims does not define a contribution over the prior art, the Examiner relies upon Sale, which does not disclose or suggest a method for promoting homologous recombination as called for by the present invention. Instead, Sale discloses hypermutations induced by ablating an XRCC2 or XRCC3 gene, each of which are paralogs of RAD51. As would be appreciated by a skilled worker reading Sale, RAD51 plays an important role in homologous recombination, and ablating RAD51 orthologues would be expected to reduce homologous recombination. In fact, Sale states in its abstract on page 921 that ablation of XRCC2 and XRCC3 or RAD51B genes resulted in the exhibition of a pattern of diversification of the immunoglobulin V gene in the chicken DT40 B-cell lymphoma line that is markedly shifted from one of gene conversion (a type of homologous recombination) to one of somatic hypermutation. Thus, hypermutation and homologous recombination are mechanistically different methods for introducing mutations.

For at least the above reasons, the technical feature of the present claims do define a contribution over Sale. Thus, the restriction requirement should be withdrawn and the claims of all five groups should be examined in the same application.

If the restriction requirement is not withdrawn in its entirety, then it should at least be modified to allow prosecution in this application of at least claims in Invention Groups III and IV. Claims 2, 12, 13, 14, 15, new 16, 8, and 9, of Invention Groups III and IV are directed to a method for antibody production comprising promoting homologous DNA recombination at an antibody

locus when producing antibodies from immunocytes in which DNA homologous recombination is occurring by relaxing the chromatin structure of chromosomes in said immunocytes and thereby obtaining diverse antibodies and antibodies produced by promoting homologous recombination. A search for the method for antibody production comprising homologous recombination as called for by claims 2, 12, 13, 14, 15, and new claim 16 would be sufficient to examine claims directed to antibodies produced by the method of claim 2 as called for by claims 8 and 9. Additional searching is not necessary. Thus examining the claims of Invention Groups III and IV can be made without a serious burden.

CONCLUSION

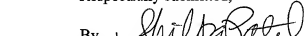
In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue. Applicants reserve the right to pursue the non-elected subject matter in one or more continuation or divisional applications.

If there are any other issues remaining, which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Dated: November 16, 2007

Respectfully submitted,

By 

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